ABSTRACT

Data processing methods and apparatus used in digital display system transpose pixel-by-pixel data into bitplane-by-bitplane data. The methods and apparatus are especially useful for dynamically transposing high-speed flowing-through pixel data in a "real-time" fashion. In a transpose process, a stream of pixel data is received by a plurality of input lines of the transpose apparatus. The received pixel data are delayed by a set of delay units and then permutated by one or more switches according to a predefined delay scheme and permutation rule. After permutation, the stream of data is delayed so as to finalize the transpose process.